

CLAIMS

What I claim is

- 1 1. A tubular shaped device comprising:
  - 2 a. a first outer wall;
  - 3 b. a second inner wall having a smaller diameter than the first outer wall;
  - 4 c. a fused juncture of the first and second wall that creates fluid impermeable  
5 seals and fluid communicating passages within an interstitial space  
6 between the first and second wall;
  - 7 d. a valve to convey fluid into the interstitial space.
- 1 2. The device of claim 1 further comprising a plurality of fused junctures of the  
2 first wall and the second wall in a selected orientation wherein at least one  
3 juncture is intersected by at least one passage capable of conveying fluid  
4 within the interstitial space.
- 1 3. The device of claim 2 wherein the selected orientation is substantially  
2 circumferential.
- 1 4. The device of claim 3 wherein the outer wall has a greater longitudinal length  
2 between each fused joint than the longitudinal length of the inner wall.
- 1 5. The device of claim 2 wherein the inner and outer walls are comprised of  
2 materials having differing elasticity.
- 1 6. The device of claim 2 wherein at least one wall is comprised of a material  
2 selected from a group consisting of polyethylene, polyurethane, TFE, PTFE,  
3 and ePTFE.
- 1 7. The device of claim 2 further comprising a fluid that can be communicated  
2 through the valve to fill the interstitial space.
- 1 8. The device of claim 7 further comprising a means for locating the tubular  
2 shaped device and inflating the device with the fluid within a blood vessel to  
3 form a lumen through which blood may be conveyed.
- 1 9. The device of claim 2 further comprising radially oriented web reinforcement  
2 within one or more fluid communicating chambers within the interstitial space  
3 of the inner and outer walls. .
- 1 10. The device of claim 2 for treatment of aneurysms.

- 1 11. The device of claim 2 for treatment of atherosclerosis.
- 1 12. The device of claim 4 wherein after the interstitial space is filled with fluid, the  
2 outer wall forms a substantially corrugated surface and the inner wall forms a  
3 substantially smooth wall.
- 1 13. The device of claim 7 wherein the fluid is a curable composition.
- 1 14. A method for repair of vessel walls comprising the steps of:
- 2 a. inserting a sealable two walled tubular shaped device within the vessel  
3 lumen utilizing a catheter having a fluid conveying means in  
4 communication to a valve assessing an interstitial space between the  
5 walls of the device;
- 6 b. maneuvering the device to a selected location within the vessel;
- 7 c. inserting fluid through a controllable valve within the device and into  
8 interstitial space between the two walls of the device;
- 9 d. continuing the addition of fluid to deploy the device in a radial direction  
10 sufficient that the one wall contacts the vessel wall and an annular space  
11 is created along the longitudinal length of the device;
- 12 e. withdrawing the catheter.